

Notice of Allowability

Application No.

09/608,526

Examiner

Thomas H. Stevens

Applicant(s)

DI ET AL.

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2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/18/05.
2. ☒ The allowed claim(s) is/are 1-4, 6-21 and 23-28.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.


WILLIAM THOMSON
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

1. Claims 1-4, 6-21, and 23-28 were examined and allowed.

Allowance

2. Applicants' arguments set forth within the declarations submitted 10/18/05 have been fully considered and persuasive to negate the prior art rejection.

In view of the grounds of rejection traversed by applicants, the case is in condition for allowance.

While, US Patent 5,862,519 teaches a method comprising assigning each of a plurality of segments comprising a received corpus to a node in data structure denoting dependencies between nodes; calculating a transitional probability between each of the nodes in the data structure (claim 1); a method for predicting a likelihood of an item in a corpus of a plurality of items, the method comprising: building a data structure, across a system memory of a computer system an extended memory of a computer system, of corpus segments (claim 11); a storage medium comprising a plurality of executable instructions including at least a subset of which, an to calculate a transitional probability between each of the nodes in the data structure to determine a predictive capability of a language model denoted by the data structure (claim 28); US Patent 6,671,668 teaches a data structure generator, responsive (claim 24); US Patent 6,009,390, 6,556,969 teach a storage medium comprising executable instructions that are configured to generate, from a corpus, a data structure representing a statistical language model, a plurality of subordinate nodes, on or more items of a corpus

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and includes a measure of a Markov transition probability between the nodes and another linked node (claim 17), none of these references taken either alone or in combination with the prior art disclose data structure of a extended memory of a computer (claim 1), including:

Segments representing a dynamic context of item dependencies within the segments; interactively re-segmenting the corpus; and predicting a likelihood of an item in the re-segmented corpus (claim 11)

“system memory and an extended memory, the data structure including: on or more root nodes; a plurality of subordinate nodes, ultimately linked to a root node, cumulatively comprising one or more sub-trees, wherein each node of a sub-tree represents, one or more items of a corpus... ultimately linked to a root node, cumulatively comprising one or more sub-trees, ... wherein each node of a sub-tree represents, (claim 17)

“ a modeling agent comprising: a controller...an iteratively re-segments the received corpus until a threshold predictive capability is reached” (claim 24)

“when executed, implement a language modeling agent to assign each of a plurality of segments of a received corpus to a node in a data structure denoting dependencies between nodes,... implemented a language modeling agent to assign each of a plurality of segments...dynamically re-segments the

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received corpus to remove segments which do not meet a minimum threshold frequency" (claim 28)

It is for these reasons that the applicant defines over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Citation to Relevant Prior Art

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent 5,862,519: The present invention relates to a method for segmenting speech into subword speech segments. Optimal boundary locations for each estimate of a number of segments are determined within an estimated range of the number of segments.
- US Patent 6,009,390: The present invention teaches a speech recognition system, tied-mixture hidden Markov models (HMMs) are used to match, in the maximum likelihood sense, the phonemes of spoken words given the acoustic input thereof.
- US Patent 6,556,969: The present invention teaches a low complexity speaker verification system that employs universal cohort models an automatic score thresholding. The universal cohort models are generated using a simplified cohort model-generating scheme. In certain embodiments of the invention, a simplified hidden Markov modeling (HMM) scheme is used to generate the cohort models.

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- US Patent 6,671,668: The present invention teaches a speech recognition system is trained to be sensitive not only to the actual spoken text, but also to the manner in which the text is spoken, for example, whether something is said confidently, or hesitatingly. In the preferred embodiment, this is achieved by using a Hidden Markov Model (HMM) as the recognition engine, and training the HMM to recognize different styles of input.

Correspondence Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mr. Tom Stevens whose telephone number is 571-272-3715, Monday-Friday (8:00 am- 4:30 pm EST).

If attempts to reach the examiner by telephone are unsuccessful, please contact examiner's supervisor Mr. Leo Picard ((571) 272-3749). The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Answers to questions regarding access to the Private PAIR system, contact the Electronic Business Center (EBC) (toll-free (866-217-9197)).

November 15, 2005

TS


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